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LEONARD T. GUZMAN			EXAMINER	
IBM CORP., LAW DEPT., C4TA/J2B			COLUCC, MICHAEL C	
650 HARRY ROAD				
SAN JOSE, CA 95120-6099			ART UNIT	PAPER NUMBER
			2626	
			NOTIFICATION DATE	DELIVERY MODE
			12/14/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/692,025

Applicant(s)

YI ET AL.

Examiner

MICHAEL C. COLUCCI

Art Unit

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2010.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10, 12, 14-17 and 23 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 10, 12, 14-17 and 23 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SF/08)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09/22/2010 has been entered.

Claim Objections

2. Claim 10 objected to because of the following informalities: Re Claim 10 line 5, "wherein each feature term is proceeded by a definite article", Examiner believes that "preceded" was intended, wherein the well known use of an article is to precede another term, such as "the battery" (definite article) or "a battery" (indefinite article). Appropriate correction is required.

Response to Arguments

3. Applicant's arguments filed 09/22/2010 have been fully considered but they are not persuasive.

Re prior art not teaching definite articles of feature terms (Remarks page 4 paragraph 4 for instance):

Examiner disagrees and maintains the use of the prior art, wherein Examiner believes Paik to teach the current amendment to the claims. First, consider support from the specification of the present invention:

"[0037] Definite base noun phrases (dBNPs) further restrict candidate feature terms to definite base noun phrases, which are noun phrases preceded by the definite article "the." Given that a document is focused on a certain topic, the definite noun phrases referring to topic features do not need any additional constructs such as attached prepositional phrases or relative clauses, in order for the reader to establish their referent. Thus, the phrase "the battery," instead of "the battery of the digital camera," is sufficient to infer its referent.."

Examiner finds this to be the only mention of a feature term having a definite article, and therefore believes that Paik reads upon this, wherein Paik teaches the broad understanding of how Relations define how concepts are connected to each other. They define what role a concept plays in a proposition or sentence. For example, a relation might be causal ("the earthquake caused the building to collapse."). In this case, one concept, earthquake, is in a causal relation with collapse (Paik Col. 13 lines 28-35).

Further, Paik teaches that the topic of a document or text is extracted (Paik Col. 24 line 55 - Col. 25 line 8).

Additionally, Paik teaches what is called "determiners", which have the same role as a definite article within Paik, wherein the use of "the" defines a determiner as the element that connects to a noun for instance. Consider in Fig. 4 of Paik, "the tribunal" and "the receivers" both contain determiners (Paik Col. 18 line 13-61 & Fig. 4). Thus, Paik improves the semantic and syntactic analysis of Boguraev, by extracting a determiner of a noun in a sentence and creating a grammatical rule base which recognizes a larger variety of linguistic constructions where repetitive versions of the same story are no longer necessary (Paik Col. 18 line 13-61 & Fig. 4).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 10, 12, 14-17, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boguraev et al. US 6185592 B1 (hereinafter Boguraev) in view of Chase US 6332143 B1 (hereinafter Chase) and further in view of Paik et al. US 6076088 A (hereinafter Paik).

Re claim 10, Boguraev teaches a method for extracting opinions about a subject of interest from a text document having a plurality of sentences, the subject associated with a plurality of features (Col. 10 line 19 - Col. 11 line 26), the method comprising:

extracting from the document feature terms (Col. 5 lines 1-8) related to the features most relevant to the subject (Col. 10 line 19 - Col. 11 line 26);

for each sentence referring to a feature term (Col. 10 line 19 - Col. 11 line 26), determining whether the sentence includes an opinion polarity about the feature term; an

for each sentence referring to the subject (Col. 10 line 19 - Col. 11 line 26), determining whether the sentence includes an opinion polarity about the subject,

for each sentence having a feature term and an opinion term, parsing the sentence with an English parser (Col. 8 lines 9-32, tagged syntactic information streamed) to identify grammatical components in the sentence and relationships between said components (Col. 10 line 19 - Col. 11 line 26), and identifying an opinion polarity associated with said feature term using the opinion dictionary

However, Boguraev fails to teach determining whether the sentence includes an opinion polarity about the subject term and feature term

identifying opinion terms in the sentence using an opinion dictionary, each entry in the dictionary having an opinion term, a part-of-speech tag, and an associated opinion polarity

identifying an opinion polarity associated with said feature term using the opinion dictionary

Chase teaches one denotative field is assigned to the word or phrase. A second denotative field is assigned to the denotative context (dictionary meaning) of the word or phrase. A third denotative field is assigned to the part of speech. Preferably, each context of each word is assigned a separate database record. Thus, if the dictionary definition of a single word has two meanings among a total of five denotative contexts, then there are five records, one for each context. There may be multiple contexts for a given dictionary meaning when, for example, there are different parts of speech for the word/meaning. (Chase Col. 7 lines 23-43).

Further, Chase teaches connotative meanings for any given term are identified from a range of emotional descriptor terms. There are a plurality of predefined categories of emotional descriptors. In one embodiment described below for the English language there are 8 categories. In the preferred embodiment there are four categories of positive emotions (e.g., affection/friendliness, enjoyment/elation, amusement/excitement and contentment/gratitude) and four categories of negative emotions (e.g., sadness/grief, anger/loathing, fear/uneasiness, and humiliation/shame). Within each category there are a predefined list of emotional descriptors. A term may have a connotative meaning in any or all of the emotional categories. Some terms may not have any connotative meaning. In some embodiments only one emotional descriptor is permitted to be assigned for a given emotional category for a given term. Thus, for an eight category embodiment, any term can have 0 to 8 emotional

descriptors--the emotional descriptors being from different emotional categories. In other embodiments a primary and a secondary emotional descriptor may be assigned for any given term. For such an embodiment, which is based on 8 emotional categories, any term can have 0-16 emotional descriptors--the emotional descriptors being in pairs, where the two emotional descriptors in a given pair being for a given emotional category. Different pairs include emotional descriptors for different emotional categories (Chase Col. 4l lines 9-36 & Fig. 4-7).

Furthermore, Chase teaches word relationship with one another, wherein one term will describe another term (i.e. lonely people) within the context of the emotion of a document (Fig. 6 and 7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Boguraev to incorporate determining whether the sentence includes an opinion polarity about the feature term, identifying opinion terms in the sentence using an opinion dictionary, each entry in the dictionary having an opinion term, a part-of-speech tag, and an associated opinion polarity, identifying an opinion polarity associated with said feature term using the opinion dictionary as taught by Chase to allow for various fields within a dictionary (i.e. meaning, context, parts of speech) (Chase Col. 7 lines 23-34), wherein stored emotional content is defined as 0 to n emotional connotations per record (or per term in the passage) whereby emotional connotations stored for each term in the database are associated with either a positive emotional category or a negative emotional category and displayed graphically (Chase Col. 11 line 45 – Col. 12 line 16 & Fig. 5-7).

However, Boguraev in view of Chase fails to teach the grammatical components including verb phrases, subject phrases, object phrases, complements, and prepositional phrases, each feature term may have a modifier describing the feature term, and the identifying includes for each sentence having a verb phrase where the verb phrase has no matching entry in the opinion dictionary, assigning an opinion polarity of the modifier of the feature term to the feature term, the opinion polarity of the modifier being defined in the opinion dictionary

deriving an opinion skeleton for each of the extracted opinion, thereby providing supporting details for this opinion

wherein each feature term is proceeded by a definite article

Paik teaches that each original and morphologically standardized (e.g., the plural form of a noun converted to the singular form and the past tense form of a verb converted to the present tense form) phrase candidate and phrasal verb candidate is checked against Conceptual Hierarchy database 117 until the match is found. If no match is found then the phrase or phrasal verb is not considered as a concept. The component words, which are open class words, of the phrase or the phrasal verbs are considered as concepts. The following example illustrates how CHESS identifies concepts in the sample sentence:

"David Smith put off paying his 250 dollar telephone bill until it was overdue."

CHESS identifies "David Smith" as a personal proper name, "put off" as a phrasal verb (a combination of a verb plus a preposition or an adverb), "250 dollar" as a monetary numeric concept, and "telephone bill" as complex nominal. "Paying" and "overdue" are each identified as single word concepts. "Put off" was identified by consulting the Conceptual Hierarchy database to determine its idiomatic meaning. Conceptual Hierarchy database 117 maps related words and terms (synonyms) into a single concept cluster. The database differentiates between phrases as concept units and single term concepts. The concepts are organized as a hierarchical set of relations in the database (Paik Col. 12 lines 45-67).

Further, Paik teaches rules that map a meaning to both verb and other grammatical elements, wherein Paik maps syntactic relations such as "subject of the transitive verb" to their semantic functional equivalents so that a subject of a verb might be described as "agent of the action" of a verb. For example, in the sentence "Mr. MacGregor hoed his lettuce patch," Mr. MacGregor is the subject of the transitive verb "to hoe," and this is mapped to the semantic relation which describes Mr. MacGregor as "Agent" of the action. Rules for mapping to semantic relations are contained in Mapping Rule Base 212 (Paik Col. 17 line 60 – Col. 18 line 5).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Boguraev in view of Chase to incorporate grammatical components including verb phrases, subject phrases, object phrases, complements, and prepositional phrases, each feature term may have a modifier describing the feature term, and the identifying includes for each sentence having a

verb phrase where the verb phrase has no matching entry in the opinion dictionary, assigning an opinion polarity of the modifier of the feature term to the feature term, the opinion polarity of the modifier being defined in the opinion dictionary and deriving an opinion skeleton for each of the extracted opinion, thereby providing supporting details for this opinion, and wherein each feature term is proceeded by a definite article as taught by Paik to allow for the relational mapping of verb and subject for instance (Paik Col. 17 line 60 – Col. 18 line 5), wherein if no matching element is identified the concept of a phrase is extracted based on other elements separate from the non-matching element, and the meaning still derived into a cluster concept, whereby a verb or another element will relate to define a concept (Paik Col. 12 lines 45-67), wherein by extracting a determiner of a noun in a sentence and creating a grammatical rule base which recognizes a larger variety of linguistic constructions, thus eliminating repetitive versions of the same story (Paik Col. 18 line 13-61 & Fig. 4) and improving the semantic and syntactic analysis of Boguraev when extracting the topic of a document.

Re claim 12, Boguraev fails to teach the method as recited in claim 10, wherein the opinion polarity associated with the feature term is identified based on an opinion rule.

Chase teaches one denotative field is assigned to the word or phrase. A second denotative field is assigned to the denotative context (dictionary meaning) of the word or phrase. A third denotative field is assigned to the part of speech. Preferably, each context of each word is assigned a separate database record. Thus, if the dictionary

definition of a single word has two meanings among a total of five denotative contexts, then there are five records, one for each context. There may be multiple contexts for a given dictionary meaning when, for example, there are different parts of speech for the word/meaning. (Chase Col. 7 lines 23-43).

Further, Chase teaches connotative meanings for any given term are identified from a range of emotional descriptor terms. There are a plurality of predefined categories of emotional descriptors. In one embodiment described below for the English language there are 8 categories. In the preferred embodiment there are four categories of positive emotions (e.g., affection/friendliness, enjoyment/elation, amusement/excitement and contentment/gratitude) and four categories of negative emotions (e.g., sadness/grief, anger/loathing, fear/uneasiness, and humiliation/shame). Within each category there are a predefined list of emotional descriptors. A term may have a connotative meaning in any or all of the emotional categories. Some terms may not have any connotative meaning. In some embodiments only one emotional descriptor is permitted to be assigned for a given emotional category for a given term. Thus, for an eight category embodiment, any term can have 0 to 8 emotional descriptors--the emotional descriptors being from different emotional categories. In other embodiments a primary and a secondary emotional descriptor may be assigned for any given term. For such an embodiment, which is based on 8 emotional categories, any term can have 0-16 emotional descriptors--the emotional descriptors being in pairs, where the two emotional descriptors in a given pair being for a given

emotional category. Different pairs include emotional descriptors for different emotional categories (Chase Col. 4I lines 9-36 & Fig. 4-7).

Furthermore, Chase teaches word relationship with one another, wherein one term will describe another term (i.e. lonely people) within the context of the emotion of a document (Fig. 6 and 7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Boguraev to incorporate the opinion polarity associated with the feature term is identified based on an opinion rule as taught by Chase to allow for an overall summary of a document both topically and emotionally from a narrow or global analysis, wherein the relationship of words to one another allows for the proper identification of emotion/opinion of a document (Chase Col. 4I lines 9-36).

Re claim 14, Boguraev fails to teach the method as recited in claim 12, wherein the rule base comprises a plurality of rules each having a relationship term, a target of the opinion, and a polarity of the opinion.

Chase teaches one denotative field is assigned to the word or phrase. A second denotative field is assigned to the denotative context (dictionary meaning) of the word or phrase. A third denotative field is assigned to the part of speech. Preferably, each context of each word is assigned a separate database record. Thus, if the dictionary definition of a single word has two meanings among a total of five denotative contexts, then there are five records, one for each context. There may be multiple contexts for a

given dictionary meaning when, for example, there are different parts of speech for the word/meaning. (Chase Col. 7 lines 23-43).

Further, Chase teaches connotative meanings for any given term are identified from a range of emotional descriptor terms. There are a plurality of predefined categories of emotional descriptors. In one embodiment described below for the English language there are 8 categories. In the preferred embodiment there are four categories of positive emotions (e.g., affection/friendliness, enjoyment/elation, amusement/excitement and contentment/gratitude) and four categories of negative emotions (e.g., sadness/grief, anger/loathing, fear/uneasiness, and humiliation/shame). Within each category there are a predefined list of emotional descriptors. A term may have a connotative meaning in any or all of the emotional categories. Some terms may not have any connotative meaning. In some embodiments only one emotional descriptor is permitted to be assigned for a given emotional category for a given term. Thus, for an eight category embodiment, any term can have 0 to 8 emotional descriptors--the emotional descriptors being from different emotional categories. In other embodiments a primary and a secondary emotional descriptor may be assigned for any given term. For such an embodiment, which is based on 8 emotional categories, any term can have 0-16 emotional descriptors--the emotional descriptors being in pairs, where the two emotional descriptors in a given pair being for a given emotional category. Different pairs include emotional descriptors for different emotional categories (Chase Col. 41 lines 9-36 & Fig. 4-7).

Furthermore, Chase teaches word relationship with one another, wherein one term will describe another term (i.e. lonely people) within the context of the emotion of a document (Fig. 6 and 7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Boguraev to incorporate the rule base comprises a plurality of rules each having a relationship term, a target of the opinion, and a polarity of the opinion as taught by Chase to allow for an overall summary of a document both topically and emotionally from a narrow or global analysis, wherein the relationship of words to one another allows for the proper identification of emotion/opinion of a document (Chase Col. 41 lines 9-36).

Re claim 15, Boguraev fails to teach the method as recited in claim 12, wherein the rule base comprises a plurality of rules each having a relationship term, a source of the opinion, and a target of the opinion.

Chase teaches one denotative field is assigned to the word or phrase. A second denotative field is assigned to the denotative context (dictionary meaning) of the word or phrase. A third denotative field is assigned to the part of speech. Preferably, each context of each word is assigned a separate database record. Thus, if the dictionary definition of a single word has two meanings among a total of five denotative contexts, then there are five records, one for each context. There may be multiple contexts for a given dictionary meaning when, for example, there are different parts of speech for the word/meaning. (Chase Col. 7 lines 23-43).

Further, Chase teaches connotative meanings for any given term are identified from a range of emotional descriptor terms. There are a plurality of predefined categories of emotional descriptors. In one embodiment described below for the English language there are 8 categories. In the preferred embodiment there are four categories of positive emotions (e.g., affection/friendliness, enjoyment/elation, amusement/excitement and contentment/gratitude) and four categories of negative emotions (e.g., sadness/grief, anger/loathing, fear/uneasiness, and humiliation/shame). Within each category there are a predefined list of emotional descriptors. A term may have a connotative meaning in any or all of the emotional categories. Some terms may not have any connotative meaning. In some embodiments only one emotional descriptor is permitted to be assigned for a given emotional category for a given term. Thus, for an eight category embodiment, any term can have 0 to 8 emotional descriptors--the emotional descriptors being from different emotional categories. In other embodiments a primary and a secondary emotional descriptor may be assigned for any given term. For such an embodiment, which is based on 8 emotional categories, any term can have 0-16 emotional descriptors--the emotional descriptors being in pairs, where the two emotional descriptors in a given pair being for a given emotional category. Different pairs include emotional descriptors for different emotional categories (Chase Col. 41 lines 9-36 & Fig. 4-7).

Furthermore, Chase teaches word relationship with one another, wherein one term will describe another term (i.e. lonely people) within the context of the emotion of a document (Fig. 6 and 7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Boguraev to incorporate the rule base comprises a plurality of rules each having a relationship term, a source of the opinion, and a target of the opinion as taught by Chase to allow for an overall summary of a document both topically and emotionally from a narrow or global analysis, wherein the relationship of words to one another allows for the proper identification of emotion/opinion of a document (Chase Col. 41 lines 9-36).

Re claim 16, Boguraev fails to teach the method as recited in claim 15, wherein the target of the opinion is a component of the sentence to which the opinion is to be assigned.

Chase teaches one denotative field is assigned to the word or phrase. A second denotative field is assigned to the denotative context (dictionary meaning) of the word or phrase. A third denotative field is assigned to the part of speech. Preferably, each context of each word is assigned a separate database record. Thus, if the dictionary definition of a single word has two meanings among a total of five denotative contexts, then there are five records, one for each context. There may be multiple contexts for a given dictionary meaning when, for example, there are different parts of speech for the word/meaning. (Chase Col. 7 lines 23-43).

Further, Chase teaches connotative meanings for any given term are identified from a range of emotional descriptor terms. There are a plurality of predefined categories of emotional descriptors. In one embodiment described below for the

English language there are 8 categories. In the preferred embodiment there are four categories of positive emotions (e.g., affection/friendliness, enjoyment/elation, amusement/excitement and contentment/gratitude) and four categories of negative emotions (e.g., sadness/grief, anger/loathing, fear/uneasiness, and humiliation/shame). Within each category there are a predefined list of emotional descriptors. A term may have a connotative meaning in any or all of the emotional categories. Some terms may not have any connotative meaning. In some embodiments only one emotional descriptor is permitted to be assigned for a given emotional category for a given term. Thus, for an eight category embodiment, any term can have 0 to 8 emotional descriptors--the emotional descriptors being from different emotional categories. In other embodiments a primary and a secondary emotional descriptor may be assigned for any given term. For such an embodiment, which is based on 8 emotional categories, any term can have 0-16 emotional descriptors--the emotional descriptors being in pairs, where the two emotional descriptors in a given pair being for a given emotional category. Different pairs include emotional descriptors for different emotional categories (Chase Col. 4I lines 9-36 & Fig. 4-7).

Furthermore, Chase teaches word relationship with one another, wherein one term will describe another term (i.e. lonely people) within the context of the emotion of a document (Fig. 6 and 7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Boguraev to incorporate the target of the opinion is a component of the sentence to which the opinion is to be assigned as taught

by Chase to allow for an overall summary of a document both topically and emotionally from a narrow or global analysis, wherein the relationship of words to one another allows for the proper identification of emotion/opinion of a document (Chase Col. 41 lines 9-36).

Re claim 17, Boguraev fails to teach the method as recited in claim 15, wherein the source of the opinion is a component of the sentence of which opinion polarity is to be assigned to the target.

Chase teaches one denotative field is assigned to the word or phrase. A second denotative field is assigned to the denotative context (dictionary meaning) of the word or phrase. A third denotative field is assigned to the part of speech. Preferably, each context of each word is assigned a separate database record. Thus, if the dictionary definition of a single word has two meanings among a total of five denotative contexts, then there are five records, one for each context. There may be multiple contexts for a given dictionary meaning when, for example, there are different parts of speech for the word/meaning. (Chase Col. 7 lines 23-43).

Further, Chase teaches connotative meanings for any given term are identified from a range of emotional descriptor terms. There are a plurality of predefined categories of emotional descriptors. In one embodiment described below for the English language there are 8 categories. In the preferred embodiment there are four categories of positive emotions (e.g., affection/friendliness, enjoyment/elation, amusement/excitement and contentment/gratitude) and four categories of negative

emotions (e.g., sadness/grief, anger/loathing, fear/uneasiness, and humiliation/shame). Within each category there are a predefined list of emotional descriptors. A term may have a connotative meaning in any or all of the emotional categories. Some terms may not have any connotative meaning. In some embodiments only one emotional descriptor is permitted to be assigned for a given emotional category for a given term. Thus, for an eight category embodiment, any term can have 0 to 8 emotional descriptors--the emotional descriptors being from different emotional categories. In other embodiments a primary and a secondary emotional descriptor may be assigned for any given term. For such an embodiment, which is based on 8 emotional categories, any term can have 0-16 emotional descriptors--the emotional descriptors being in pairs, where the two emotional descriptors in a given pair being for a given emotional category. Different pairs include emotional descriptors for different emotional categories (Chase Col. 4l lines 9-36 & Fig. 4-7).

Furthermore, Chase teaches word relationship with one another, wherein one term will describe another term (i.e. lonely people) within the context of the emotion of a document (Fig. 6 and 7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Boguraev to incorporate the source of the opinion is a component of the sentence of which opinion polarity is to be assigned to the target as taught by Chase to allow for an overall summary of a document both topically and emotionally from a narrow or global analysis, wherein the relationship of words to

one another allows for the proper identification of emotion/opinion of a document (Chase Col. 4I lines 9-36).

Re claim 23, Boguraev in view of Chase fails to teach the method of claim 10, wherein the definite article is located at the beginning of a sentence in the plurality of sentences.

Paik teaches what is called "determiners", which have the same role as a definite article within Paik, wherein the use of "the" defines a determiner as the element that connects to a noun for instance. Consider in Fig. 4 of Paik, "the tribunal" and "the receivers" both contain determiners where "the tribunal" appears at the head of the sentence (Paik Col. 18 line 13-61 & Fig. 4)

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Boguraev in view of Chase to incorporate the definite article is located at the beginning of a sentence in the plurality of sentences as taught by Paik to allow for an improved semantic and syntactic by extracting a determiner of a noun in a sentence a and creating a grammatical rule base which recognizes a larger variety of linguistic constructions, thus eliminating repetitive versions of the same story (Paik Col. 18 line 13-61 & Fig. 4) and improving the semantic and syntactic analysis of Boguraev when extracting the topic of a document.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL C. COLUCCI whose telephone number is (571)270-1847. The examiner can normally be reached on 8:30 am - 5:00 pm , Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571)-272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael C Colucci/
Examiner, Art Unit 2626
Patent Examiner

Application/Control Number: 10/692,025

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